<u>REMARKS</u>

Claims 1-5 were pending in the USPTO application and were rejected variously under 35 USC 102(e) and 103(a), but all relying basically on <u>Abraham</u> (US 2004/0142701). By this amendment, Claims 1-5 are amended, and four new Claims 6-9 are added. No new matter is introduced by these amendments.

The claimed present invention uses measurements of a wireless communications network carrier frequency broadcasts to estimate the frequency error of a local reference oscillator for a GPS receiver, e.g., a master clock (MCLK). Once the GPS receiver locks onto navigation satellite transmissions, it becomes self-sufficient in estimating local reference clock errors by depending thereafter on measurements of the navigation satellites carrier transmissions.

So the application limited its teachings to circuits and methods that help in the initialization of the navigation receiver.

In common mobile and cellular telephone networks, the cell transmitter only periodically broadcasts in bursts when the phone is in standby mode, e.g., 20-msec bursts in 700-msec intervals. During an active phone connection, the network transmissions can be near continuous. This creates the special situation solved by embodiments of the present invention. Synchronizing or slaving the GPS receiver's master reference oscillator to a continuously

available standard would be trivial and conventional. The cited prior art demonstrates conventional methods.

A mobile phone in standby mode only receives active corrections to its VCO operating frequency from the network in short bursts, e.g., 20-msec each 700-msecs. The VCO can drift in between these corrections by a frequency drift greater than those that can be tolerated by a navigation receiver's local oscillator. So, embodiments of the present invention make the error comparisons of the navigation receiver MCLK to the mobile phone VCO for those times the VCO is actually receiving active corrections from the communications network.

Figs. 1 and 2 and the Specification describe using twenty 1-msec accumulation periods to compute estimates of the frequency drift of the 27.456 MHz MCLK. The twenty estimates can be averaged to produce a signal drift estimate. A numeric controlled oscillator (NCO) is clocked by the drifting MCLK, and the NCO's 4-MSB's are used to index lookup tables for conversion to sinewaves and cosinewaves. Reconstructing the NCO output count as sinewave magnitudes allows them to be mixed with the VCO output for phase comparisons. The resulting I-mix and Q-mix signals are accumulated and held in I-latch and Q-latch as drift estimates. These estimates can then be used by the navigation receiver to narrow the range of its starting frequency searches because the frequency uncertainty of MCLK is reduced.

The methods described in the Specification allow any VCO frequency up to the MCLK frequency to be compared 1:1 with a frequency synthesized by the NCO from the MCLK. The frequency synthesized by the NCO tracks the MCLK error drift. When the ideal NCO value is used, the actual frequency difference in MCLK counts will be accumulated.

Abraham is different. It sounds similar by saying in the Abstract that it uses "a conventional oscillator in a cellular telephone transceiver as a source of a reference signal for a GPS receiver." But if the cellular telephone transceiver is in standby mode, its conventional oscillator is not in constant instantaneous lock with the cellular system. The in-between drift is enough to invalidate the cell phone's oscillator as a good-enough source to train the GPS reference frequency. So embodiments of the present invention correlate and accumulate the errors only during the bursts, and reconstruct analog signals using tables so analog mixers can be used to extract the difference frequency.
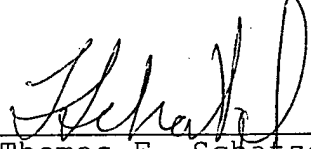
Claims 1-5 have been amended to make this critical distinction clearer. The amendments to Claim 3 have in particular come from the material directly supplied in Fig. 1.

Claims 6-9 have been drafted to include the element numbers seen in the drawing Figs. These were originally drafted for the EPO prosecution of this case for their rules, but the Office may find these useful too.

Should the Examiner be of the opinion that a telephone conference with Applicant's attorney would expedite matters, they are invited to contact the undersigned at the telephone number listed below.
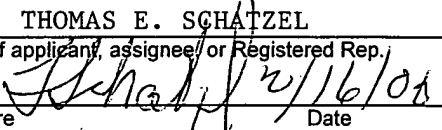
Respectfully submitted,

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